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Passalora lepistemonis sp. nov. from China

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Abstract — A new species of *Passalora, P. lepistemoni,* is described and illustrated. The type specimen is deposited in HMAS.

Key words — taxonomy, microfungi, anamorphic fungi, tropical fungi, plant pathogen

Introduction

More than 600 species have been reported from *Passalora* (teleomorph *Mycosphaerella*) (Kirk et al. 2008), a hyphomycete genus established by Fries in 1849. *Passalora* species are common parasites of a large number of plants, often causing spots on leaves, stems, flowers, fruits, and seeds resulting in serious economic damage due to decreased plant production. The primary morphological generic characters include pale olivaceous to almost black stromata (when present); solitary to fasciculate pale olivaceous to dark brown conidiophores; obvious conidial scars; solitary conidia that are variably shaped (straight to curved, cylindrical, clavate, fusiform), hyaline to dark olivaceous brown, nonseptate to multiseptate, and with an obvious hilum.

The authors found a new species from diseased leaves of *Lepistemon binectariferum*, collected in Hainan Province, China. The species is described and illustrated here.

Taxonomy

Passalora lepistemonis L. Xia, Y.L. Guo & Yu Li**, sp. nov.** Fig. 1

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Differs from other *Passalora* species reported on convolvulaceous hosts by its paler and shorter conidiophores, its conidial size and shape, and its lack of stromata.

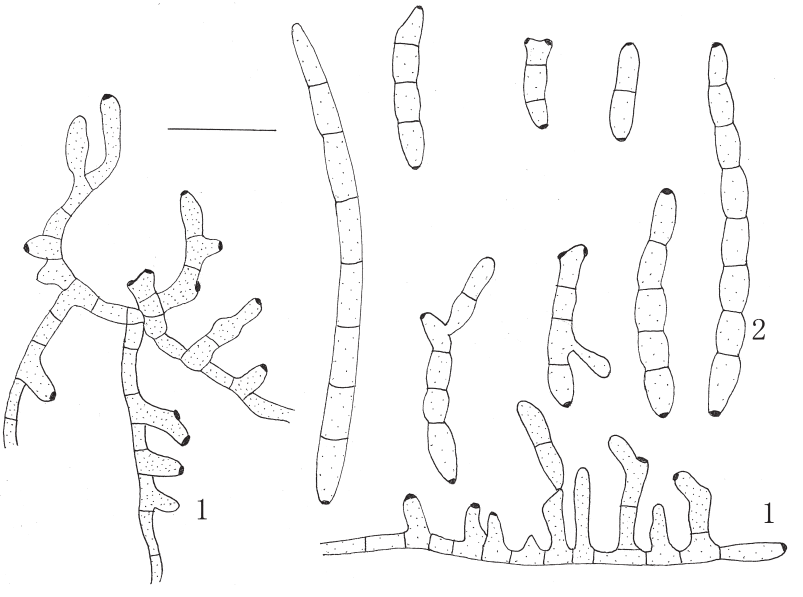

Fig. 1. *Passalora lepistemonis* (HMAS 244085, holotype).
1. Conidiophores; 2. Conidia. Bar = 25 μm.

Type—China, Hainan Province, Bawangling, from leafspots on *Lepistemon binectariferum* (Wall.) Kuntze (*Convolvulaceae*), 11 XII 2009, coll. Guo Ying-lan, (**Holotype** HMAS 244085).

Etymology: Named after the host genus *Lepistemon*.

Leaf spots amphigenous, angular, without definite margin, vein-limited, 1.5–5 mm wide, often confluent, at first pale green, later pale to medium yellowish brown on the upper surface, laurel-green to pale yellowish brown on the lower surface. Caespituli hypophyllous, effuse. Primary mycelium internal; secondary mycelium external, hyphae pale olivaceous to olivaceous, branched, septate, smooth, 2–2.5 μm wide. Stromata absent. Conidiophores emerging through the stomata, acrogenous or as lateral branches singly arising from the external mycelia, olivaceous to very pale olivaceous brown, uniform in color, irregular in width, wider on the base, straight to slightly curved, unbranched, 0–1geniculate, broadly obtuse to conical at the apex, usually not septate, 2.5–10.5 × 4–5.3 μm, sometimes longer conidiophores 1-septate, up to 25 μm in length. Conidial scars conspicuously thickened, 1.5–2.8 μm wide. Conidia cylindrical or sometimes obclavate for shorter ones, olivaceous to very pale olivaceous brown, catenulate and in branched chains, straight to curved, conical or broad-round to truncate at the apex, obconically truncate at the base,

shorter conidia 0–2- septate, longer conidia 3–7- septate, constricted at septa, 25–110 × 4–6.7 µm.

Discussion

More than ten species have been reported on plants of *Convolvulaceae*, of which five were similar to *Passalora lepistemonis* in producing ceratoid and inconspicuous or irregular leaf spots, and effused hypophyllous caespituli: *P. balansae* (Speg.) U. Braun on *Evolvulus* sp.; *P. convolvuli* (Tracy & Earle) U. Braun & Crous on *Convolvulus acetosifolia*, *C. arvensis*, and *Ipomoea* sp.; *P. lettsomiae* (Thirum. & Chupp) Crous & U. Braun on *Argyreia* spp.; *P. merremiae* (X.J. Liu & Y.L. Guo) U. Braun & Crous on *Merremia umbellata* subsp. *orientalis*; and *P. turbinae* (Chupp) U. Braun & Crous on *Ipomoea burmannii* and *Turbina corymbosa* (Braun 2000; Crous & Braun 2001, 2003).

Passalora balansae produces darker (medium brown) longer (50–300 µm) conidiophores and paler (very pale olivaceous) shorter and wider (25.6–60 × 5–8 µm) conidia (Braun 2000).

Passalora convolvuli has stromata (brown to almost black, 20–50 µm diam), densely fasciculate, darker (pale to medium olivaceous brown), longer (10–50 µm) conidiophores, and paler (hyaline to subhyaline), obclavate-cylindrical, narrower (3–4 µm) conidia (Crous & Braun 2003).

Passalora lettsomiae produces darker (fuliginous to almost black) angular leaf spots, fasciculate (5–20) conidiophores, and cylindrical-obclavate narrower (3–4.5 µm) conidia (Crous & Braun 2001).

Passalora merremiae has darker (pale brown), wider (5.5–10 µm diam), catenulate conidia, and darker (pale brown to brown) larger (12.5–108 × 5–8.8 µm) conidiophores (Crous & Braun 2003).

Passalora turbinae produces small (25 µm diam) reddish brown stromata, densely clustered longer (15–55 µm) paler 0–4 septate conidiophores, and smaller (15–60 × 3–5 µm) conidia (Crous & Braun 2003).

All these species differ from the fungus found on *Lepistemon binectariferum*, described and illustrated above as a new species.

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